

Company: Occidental Petroleum Inc

Well: State 6-16

Field: Wattenberg

County: Weld Country: Weld

**Cement Bond Log**  
**Variable Density Log**  
**Gamma Ray - CCL**

County: Weld  
 Field: Wattenberg  
 Location: SWNW Sec 16, T1N, R68W  
 Well: State 6-16  
 Company: Occidental Petroleum Inc

SWNW Sec 16, T1N, R68W	Elev.:	K.B.	5175.00 ft
1466' FNL X 1025' FWL		G.L.	5160.00 ft
		D.F.	
Permanent Datum:	Ground Level	Elev.:	5160.00 f
Log Measured From:	Kelly Bushing		15.00 ft
Drilling Measured From:	Kelly Bushing		above Perm. Datum
API Serial No.	Max. Hole Deviation	Longitude:	Latitude:
05-123-29114-00	0 deg	-105.01453 degrees	40.054300 degrees

Logging Date	25-Jul-2022
Run Number	One
Depth Driller	8228.00 ft
Schlumberger Depth	8228.00 ft
Bottom Log Interval	600.00 ft
Top Log Interval	50.00 ft
Casing Fluid Type	Water
Salinity	
Density	8.4 lbm/gal
Fluid Level	8.00 ft
BIT/CASING/TUBING STRING	
Bit Size	7.88 in
From	1005.00 ft
To	8228.00 ft
Casing/Tubing Size	4.5 in
Weight	11.6 lbm/ft
Grade	N/A
From	999.00 ft
To	8218.00 ft
Max Recorded Temperatures	71 degF
Logger on Bottom	25-Jul-2022
Time	09:22:00
Unit Number	9111
Location:	Ft. Morgan
Recorded By	Ruobing Wu
Witnessed By	NA

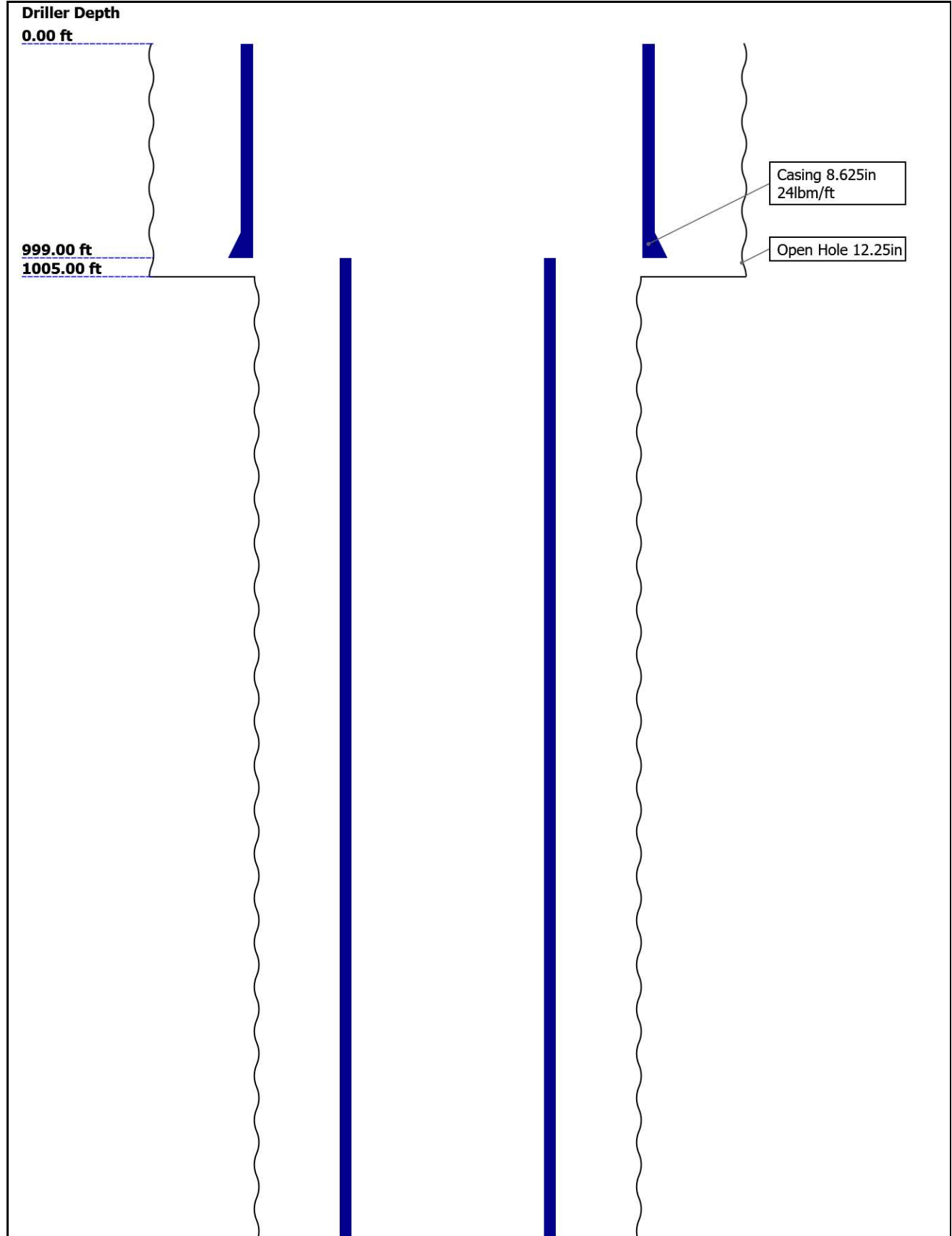
## Disclaimer

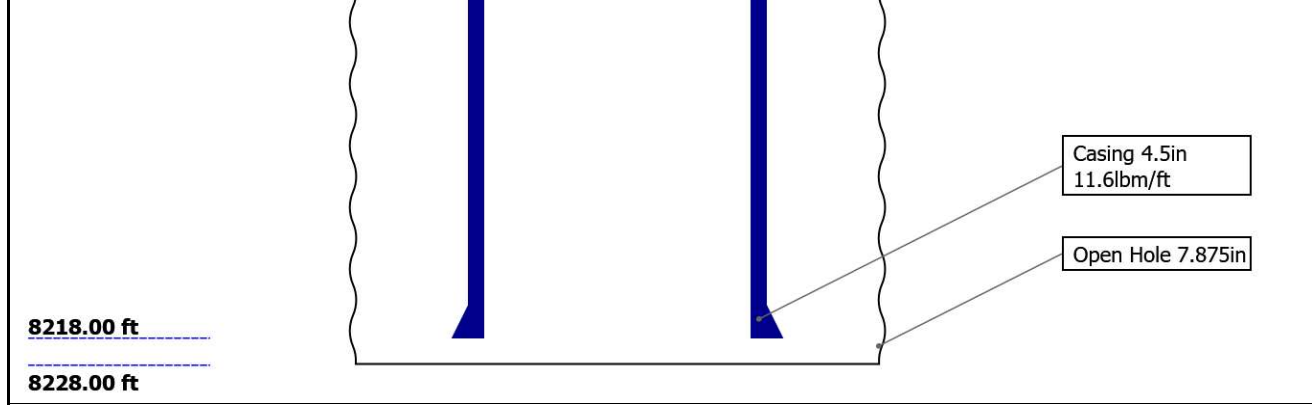
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# Well Sketch





## Borehole Size/Casing/Tubing Record

Bit					
Bit Size ( in )	12.25	7.875			
Top Driller ( ft )	0	1005			
Top Logger ( ft )	0	1005			
Bottom Driller ( ft )	1005	8228			
Bottom Logger ( ft )	1005	8228			
Casing					
Size ( in )	8.625	4.5			
Weight ( lbm/ft )	24	11.6			
Inner Diameter ( in )	8.097	4			
Grade	N/A	N/A			
Top Driller ( ft )	0	999			
Top Logger ( ft )	0	999			
Bottom Driller ( ft )	999	8218			
Bottom Logger ( ft )	999	8218			

## Remarks and Equipment Summary

### One: Toolstring

### One: Remarks

Equip name Length  
**LEH-QT 48.75**  
 LEH-QT

MP name Offset



**EDTC-B:8 45.26**  
 350  
 EDTH-B  
 EDTG-A  
 EDTC-B:83  
 50

CTEM 41.76  
 ACCZ 0.00  
 HV 0.00  
 Gamma Ray 39.89  
 TelStatu s 38.76

**CAL-YA:1 38.76**  
 228  
 CAL-YA:12  
 28

CCL 37.97

**ASLT-B:8 35.26**  
 073  
 ASLT-BB:8  
 073

Tool was run as per tool sketch

All logging intervals as per client request

Log ran with 700psi of surface induced pressure



**AH-184[2]** 20.61

**AH-184[1]** 18.61

**USIT-E** 16.61

- ECH-MFA: 1969
- USAC-A
- USIS-A:18 32
- USSC-B
- IBCS-B:75 5
- FAR-SENS OR
- IBC-TX
- NEAR-SENS OR
- IBC-TX
- USI-SENS OR
- IBC-TX
- EMITTER-SENSOR IBC-TX

**USI Sensor Head Tension** 0.87  
TOOL\_ZERO

Lengths are in ft  
Maximum Outer Diameter = 6.250 in  
Line: Sensor Location, Value: Gating Offset  
All measurements are relative to TOOL\_ZERO

## Depth Summary

One

### Depth Measuring Device

Type	IDW-B
Serial Number	
Calibration Date	
Calibrator Serial Number	
Calibration Cable Type	
Wheel Correction 1	0
Wheel Correction 2	0

### Tension Device

Type	CMTD-B/A		
Serial Number			
Calibration Date			
Calibrator Serial Number			
Number of Calibration Points	0		

**Logging Cable**

Type	7-46NT-XS		
Serial Number	1234		
Length	24000.00 ft		
Conveyance Type	Wireline		
Rig Type			

**One:Depth Control Parameters**      **Depth Control Remarks**

Log Sequence	First Log In the Well	Schlumberger depth control procedures followed
Rig Up Length At Surface		IDW used as primary depth control system
Rig Up Length At Bottom		Z-Chart used as secondary depth control system
Rig Up Length Correction		
Stretch Correction		
Tool Zero Check At Surface		

**One**

**Software Version**

<b>Acquisition System</b>	<b>Version</b>
Maxwell 2021.1	11.1.211946.3100
Application Patch	Wireline_Hotfix-Mandatory-2021.1_11.1.216380
	Wireline_NPD-ThruBit-2021.1_11.1.216465

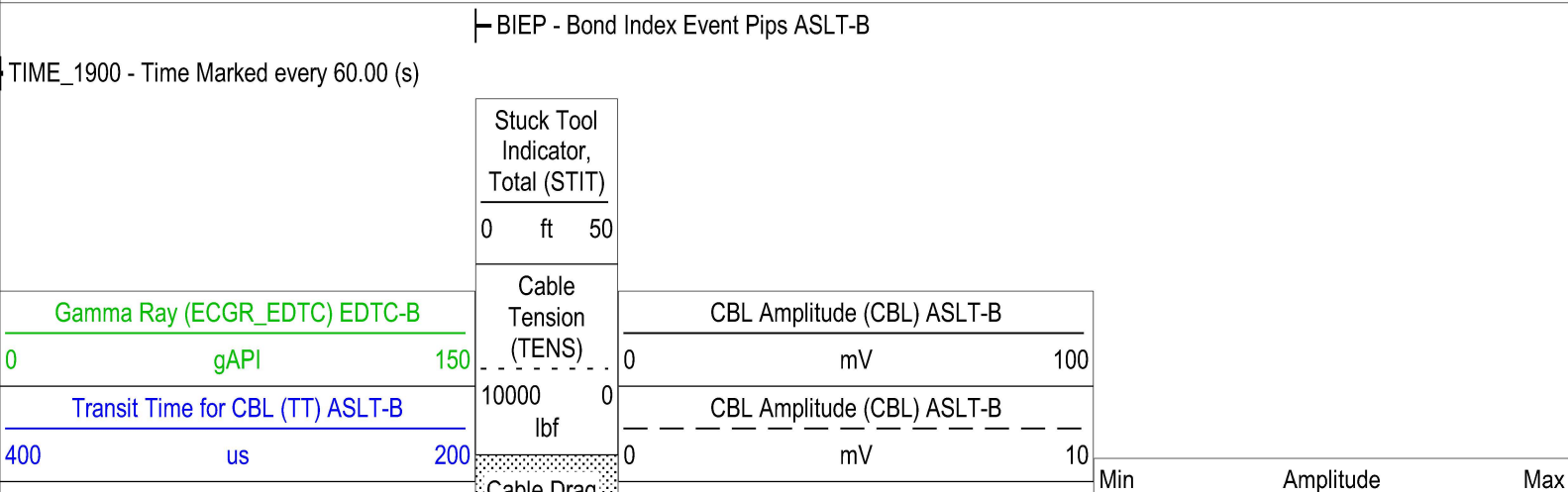
**Pass Summary**

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	55.38 ft	602.22 ft	25-Jul-2022 7:53:09 AM	25-Jul-2022 8:11:49 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

**Log**      Company:Occidental Petroleum Inc      Well:State 6-16  
One: Log[2]:Up:S006

Description: CBL\_VDL    Format: Log ( DSLT ASLT\_CBL-VDL )    Index Scale: 5 in per 100 ft    Index Unit: ft    Index Type: Measured Depth    Creation Date: 25-Jul-2022 08:59:36



Casing Collar Locator Ultrasonic (CCLU)  
USIT-E

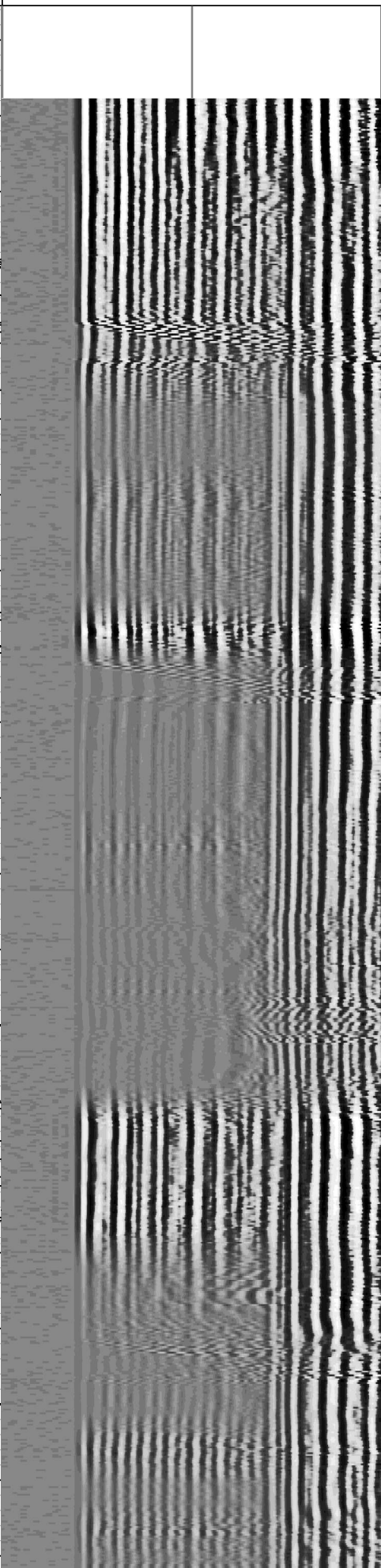
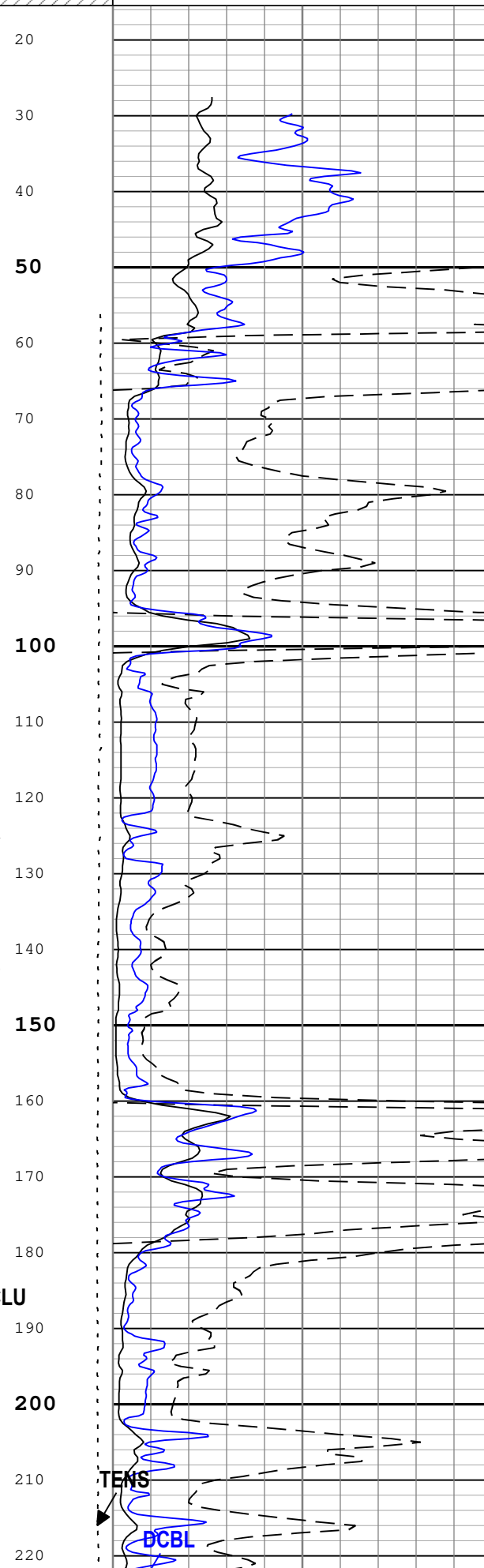
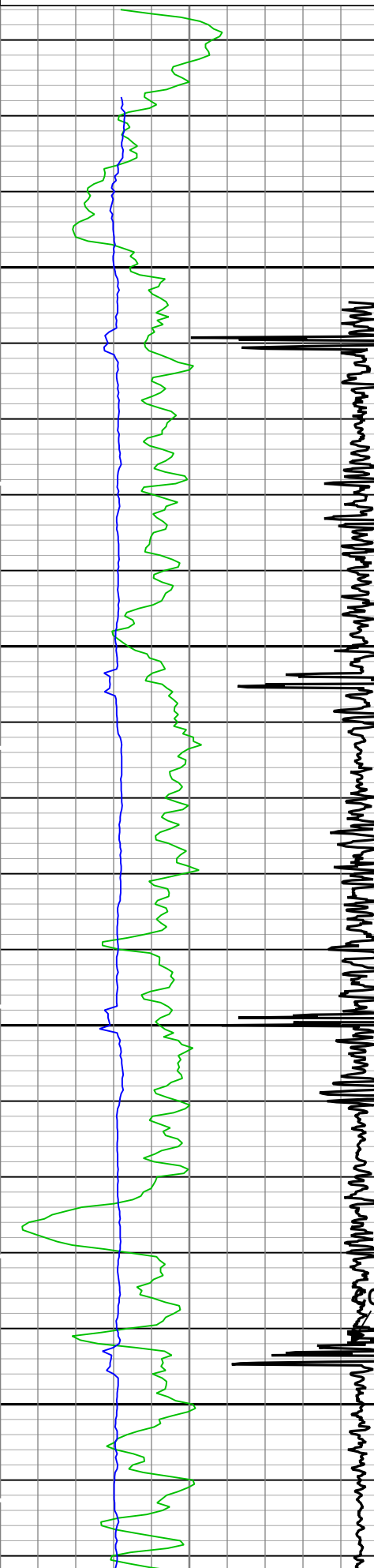
-19 in 1

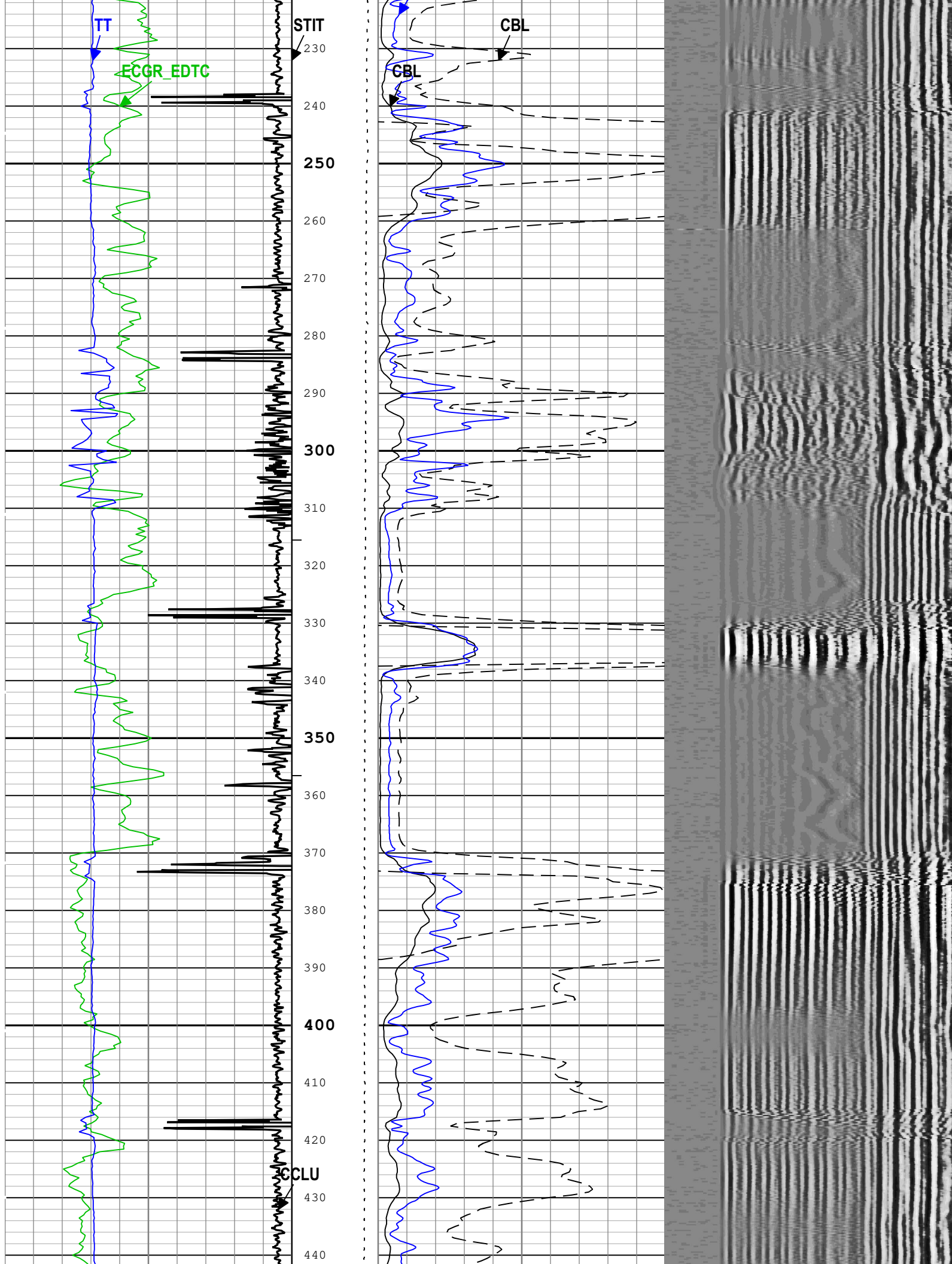
Cable Drag  
Tool Tot.  
Drag

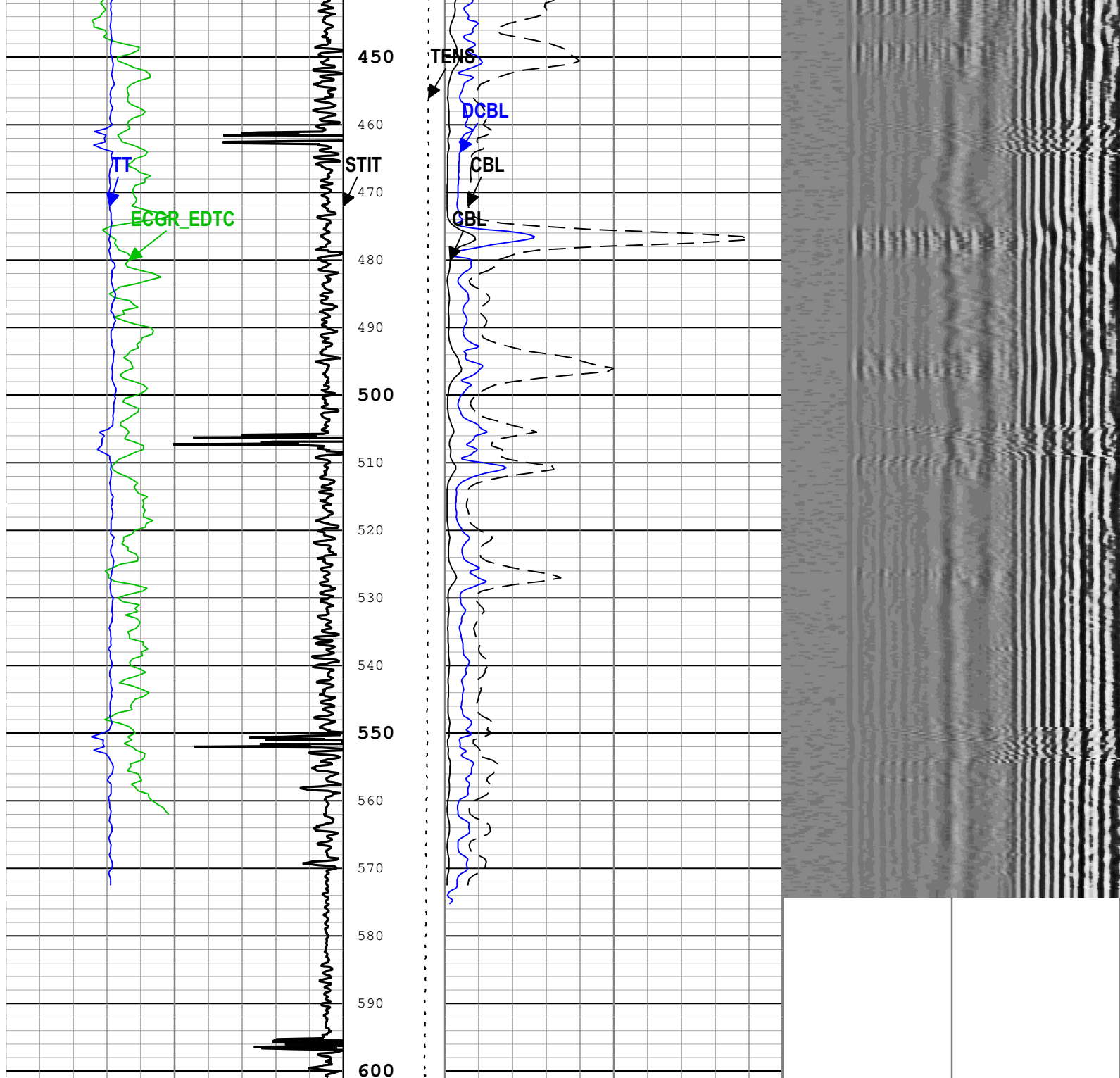
Synthetic CBL from Discriminated Attenuation  
(DCBL) ASLT-B

0 mV 100

Variable Density Log (VDL) ASLT-B  
100 us 700







Gamma Ray (ECGR_EDTC) EDTC-B		
0	gAPI	150
Transit Time for CBL (TT) ASLT-B		
400	us	200
Casing Collar Locator Ultrasonic (CCLU) USIT-E		
-19	in	1

Stuck Tool Indicator, Total (STIT)	0	ft	50
Cable Tension (TENS)	10000	lbf	0
Cable Drag			
Tool_Tot. Drag			

CBL Amplitude (CBL) ASLT-B		0	100
		mV	
CBL Amplitude (CBL) ASLT-B		0	10
		mV	
Synthetic CBL from Discriminated Attenuation (DCBL) ASLT-B		0	100
		mV	

Min	Amplitude	Max
Variable Density Log (VDL) ASLT-B		
100	us	700

Description: CBL\_VDL Format: Log ( DSLT ASLT\_CBL-VDL ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Jul-2022 08:59:36

## Channel Processing Parameters

### One: Parameters

Parameter	Description	Tool	Value	Unit
BARI(ISSBAR)	Barite Mud Presence Flag	Borehole	No	
BHS	Borehole Status (Open or Cased Hole)	Borehole	Open	
BS	Bit Size	WLSESSION	12.25	in
CBLO	Casing Bottom (Logger)	WLSESSION	8218	ft
CBRA	CBL LQC Reference Amplitude in Free Pipe	ASLT-B	54	mV
CDEN	Cement Density	EDTC-B	2	g/cm3
CDEN	Cement Density	USIT-E	0	g/cm3
CMTY(U-USIT_CEMT)	Cement Type	USIT-E	Regular Cement	
THNO	Nominal Casing Thickness - Zoned along logger depths	WLSESSION	0.264	in
DC_MODE	Depth Correction Mode	DepthCorrection	Real-time	
DFD	Drilling Fluid Density	Borehole	8.4	lbm/gal
DFT_CATEGORY	Drilling Fluid Type	Borehole	Water	
DTF	Delta-T Fluid	Borehole	189	us/ft
DTMD	Borehole Fluid Slowness	Borehole	206	us/ft
FD	Fluid Density	USIT-E	1.2	g/cm3
GCSE_DOWN_PASS	Generalized Caliper Selection for WL Log Down Passes	Borehole	BS(RT)	
GCSE_UP_PASS	Generalized Caliper Selection for WL Log Up Passes	Borehole	BS(RT)	
GOBO	Good Bond	ASLT-B	1.12	mV
GOBO_CURR	Good Bond in Arbitrary Cement	ASLT-B	1.12	mV
HEMA	Hematite Presence Flag	Borehole	No	
IBC_FVEL_SEL	IBC Fluid Velocity Selection	USIT-E	Automatic	
IBC_OFFSET_SEL	IBC Flexural Offset Selector	USIT-E	UFAO	
IBC_ZMUD_SEL	IBC Mud Impedance Selection	USIT-E	Theoretical	
IMAR	Image Rotation	USIT-E	Off	
MATT	Maximum Attenuation	ASLT-B	16.02	dB/ft
MATT_CURR	Maximum Attenuation in Arbitrary Cement	ASLT-B	16.02	dB/ft
MCI	Minimum Cemented Interval for Isolation	ASLT-B	12.98	ft
MEAS_WLEN	Tcube Processing Window Length in Measurement Mode	USIT-E	16.25	us
MSA	Minimum Sonic Amplitude	ASLT-B	0.42	mV
MSA_CURR	Minimum Sonic Amplitude in Arbitrary Cement	ASLT-B	0.42	mV
NFPI_L5	Near Free Pipe Sonic Amplitude for Lower Transmitter - Receiver 5	ASLT-B	646.89	
NFPI_U1	Near Free Pipe Sonic Amplitude for Upper Transmitter - Receiver 1	ASLT-B	325.32	
R42R	R4 to R2 Sensitivity Ratio	ASLT-B	1.27	dB/ft
RUN_SNUM	Run Sequence Number	WSDRUN	1	
SFPI	Short Free Pipe Sonic Amplitude for Lower Transmitter - Receiver 6	ASLT-B	1040.01	
U-USIT_DFSZ	Drilling Fluid Specific Acoustic Impedance	USIT-E	0	Mrayl
U-USIT_UFAO	USIT Flexural Attenuation Offset	USIT-E	0	dB/m
UFSFLT	Ultrasonic Flexural Surface Filter	USIT-E	LPF 250k	
U-USIT_UIAP	IBC Answer Product Enabled	USIT-E	ThirdInterfaceEcho	
ZMUD	Acoustic Impedance of Mud	Borehole	1.48	Mrayl
ZTCM	Acoustic Impedance Threshold for Cement	USIT-E	2.6	Mrayl
ZTGS	Acoustic Impedance Threshold for Gas	USIT-E	0.3	Mrayl

# Tool Control Parameters

## One: Parameters

Parameter	Description	Tool	Value	Unit
AGMN	Minimum Gain of Cartridge	USIT-E	-12	dB
AGMX	Maximum Gain of Cartridge	USIT-E	18	dB
EMXV	EMEX Voltage	USIT-E	20	V
IBC_ACQTYPE	IBC Acquisition type	USIT-E	DVR 1/4 and 1 MHz	
IBC_FLEXDBP	IBC Flex Duration Before Peak	USIT-E	30	us
ICE2_ACQ	Ultrasonic ICE2 Acquisition	USIT-E	Yes	
MAX_LOG_SPEED	Toolstring Maximum Logging Speed	WLSESSION	2204.4	ft/h
MODE	SSLT Firing Mode	ASLT-B	Attenuation	
UPAT	USIT Emission Pattern	USIT-E	Pattern 750 KHz	
UWKM	USIT Working Mode	USIT-E	10 deg at 1.5 in	
U-USIT_UTAN	Transducer Angles	USIT-E	33_DEG	
VDM	SSLT VDL Display Mode	ASLT-B	R5	
VRES	Vertical Resolution	USIT-E	1.5 in	

## One

## Pass Summary

Run Name	Pass Objective	Direction	Top	Bottom	Start	Stop	DSC Mode	Depth Shift	Include Parallel Data
One	Log[2]:Up	Up	55.38 ft	602.22 ft	25-Jul-2022 7:53:09 AM	25-Jul-2022 8:11:49 AM	ON	0.00 ft	Yes
One	Log[3]:Up	Up	144.02 ft	352.70 ft	25-Jul-2022 8:17:33 AM	25-Jul-2022 8:24:22 AM	ON	0.00 ft	Yes

All depths are referenced to toolstring zero

## Log

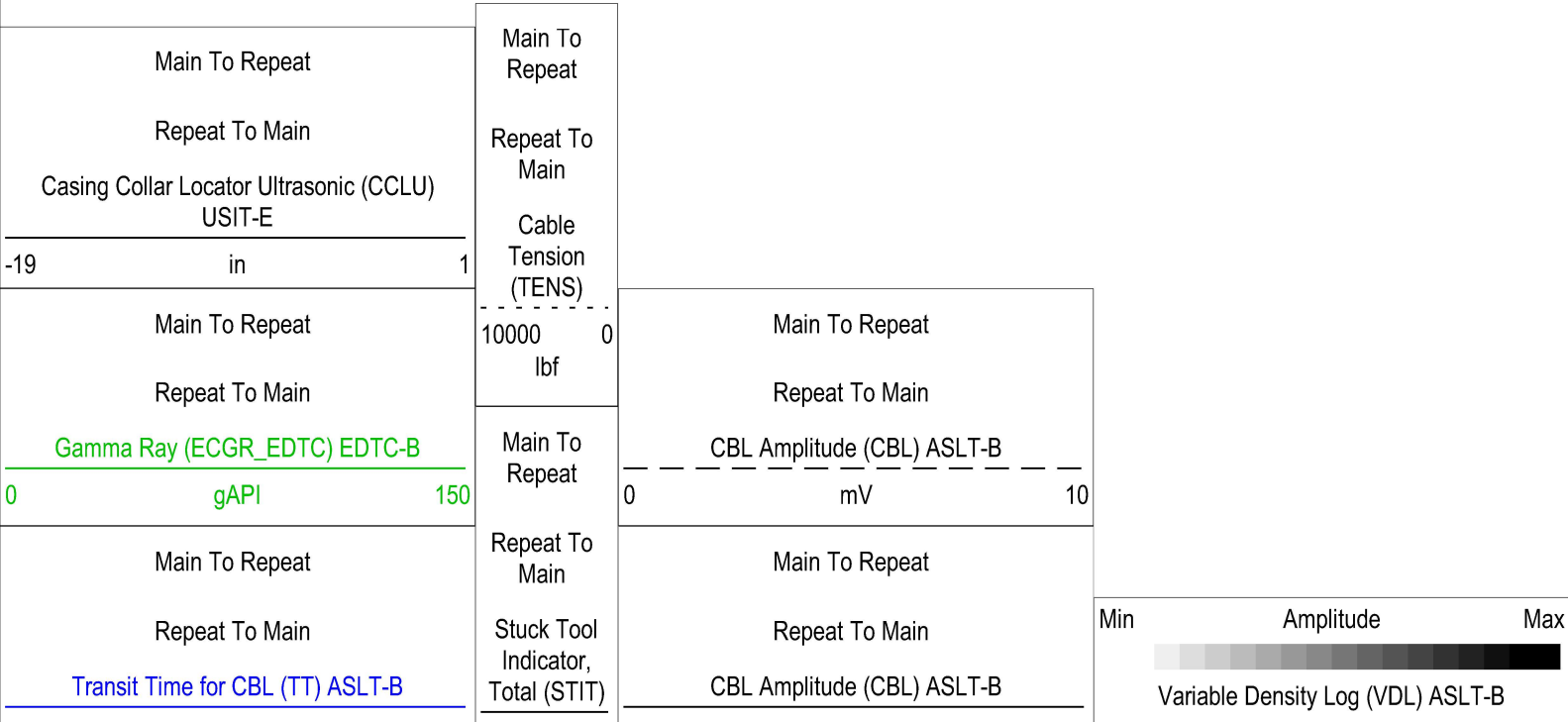
Company: Occidental Petroleum Inc Well: State 6-16

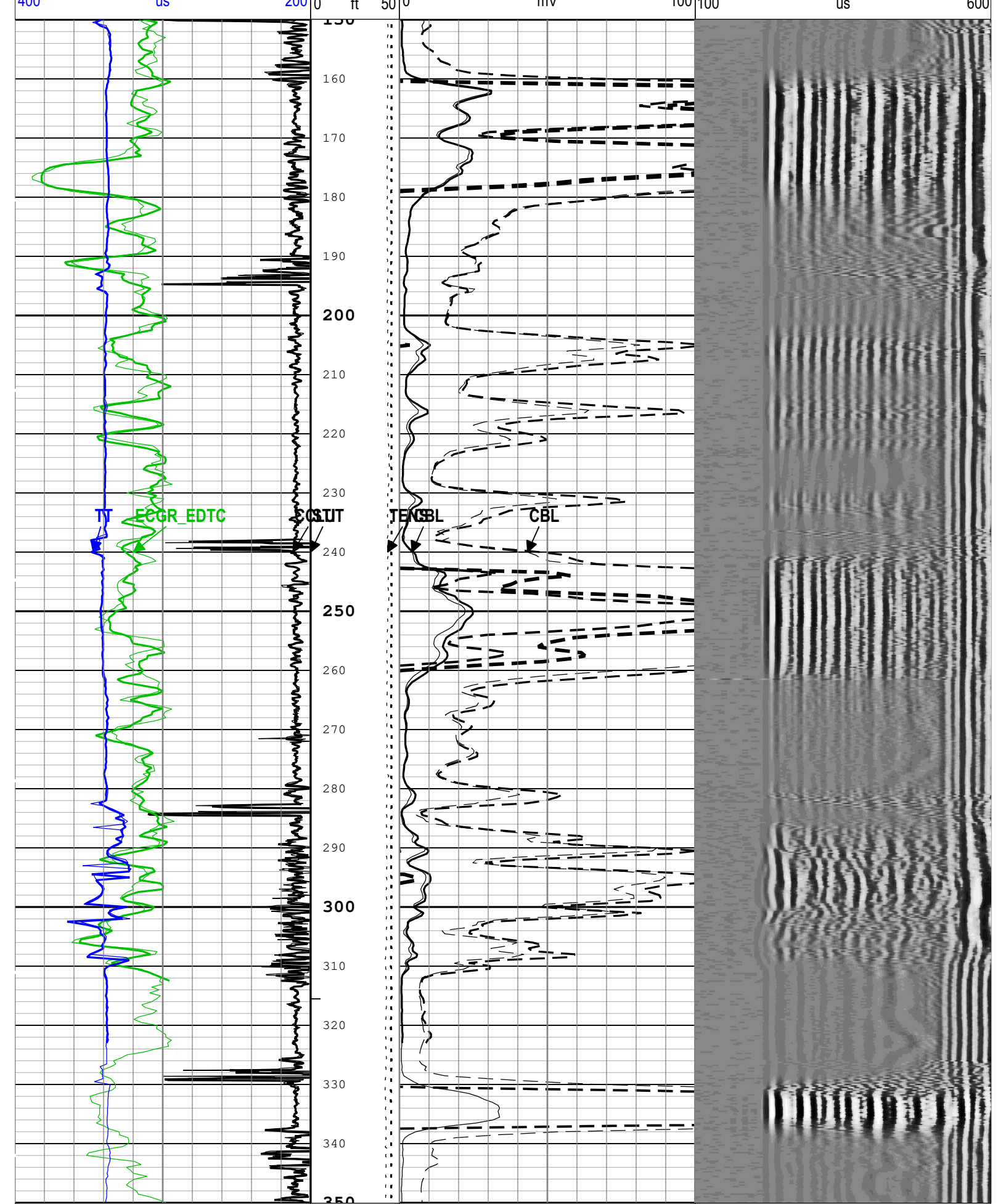
One: Log[2]:Up:S006

Description: CBL\_VDL Format: Log ( DSLT ASLT\_CBL-VDL RA ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Jul-2022 08:59:38

BIEP - Bond Index Event Pips ASLT-B

TIME\_1900 - Time Marked every 60.00 (s)





Main To Repeat

Repeat To Main

Main To Repeat

Repeat To Main

Main To Repeat

Repeat To Main

Min Amplitude Max



Variable Density Log (VDL) ASLT-B

100 us 600

Casing Collar Locator Ultrasonic (CCLU)		
USIT-E		
-19	in	1
Main To Repeat		
Repeat To Main		
Gamma Ray (ECGR_EDTC) EDTC-B		
0	gAPI	150
Main To Repeat		
Repeat To Main		
Transit Time for CBL (TT) ASLT-B		
400	us	200

Main	
Cable Tension (TENS)	
10000	0
lbf	
Main To Repeat	
Repeat To Main	
Stuck Tool Indicator, Total (STIT)	
0	50
ft	

CBL Amplitude (CBL) ASLT-B		
0	mV	10
Main To Repeat		
Repeat To Main		
CBL Amplitude (CBL) ASLT-B		
0	mV	100

TIME\_1900 - Time Marked every 60.00 (s)

└ BIEP - Bond Index Event Pips ASLT-B

Description: CBL\_VDL Format: Log ( DSLT ASLT\_CBL-VDL RA ) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 25-Jul-2022 08:59:38

Company: Occidental Petroleum Inc

**Schlumberger**

Well: State 6-16

Field: Wattenberg

County: Weld

Country:

Cement Bond Log

Variable Density Log

Gamma Ray - CCL